



MICROSTAR[®]

HS[™] INVESTMENT

INSTRUCTIONS FOR ALL PRESSABLE CERAMICS,
ZIRCONIA AND ALL ALLOYS (excl. Titanium)

PHYSICAL PROPERTIES		LIQUID + WATER RATIO (mL)	
Mixing Ratio	100g powder to 25mL liquid 60g powder to 15mL liquid	LIQUID + WATER <u>100g</u>	LIQUID + WATER <u>60g</u>
Mixing Time under Vacuum	60 seconds	Pressable Ceramic Inlay	12.5 + 12.5
Working Time	5-7 minutes	Pressable Ceramic Crown	20 + 5
Setting Time	approx. 15 minutes	Pressable Ceramic Veneer	20 + 5
		Precious Alloy	14 + 11
		Semi-Precious Alloy	20 + 5
		Non-Precious Alloy	25 + 0
			8 + 7
			12 + 3
			15 + 0

MIXING INSTRUCTIONS

Pour the liquid into mixing bowl. Add powder and mix by hand with spatula. Add vacuum line to bowl and let vacuum increase. After 20 seconds, turn on mixer for 60 seconds, and then place on vibrator for another 15-20 seconds. Adapt the investment on the clean, dry wax object with a fine instrument. Fill up ring and vibrate carefully until all wax patterns are covered.

RUSH TECHNIQUE

Bench set 15 minutes for a 60 or 100 gram ring (20 minutes for a 200 gram ring), then **dry scrape** the top of ring to break surface tension. Put the ring directly into a preheated oven at approximately 1600°F for 35 minutes (45 minutes for a 200 gram ring). For pressable ceramics, after completing the burnout phase, put the ring into the pressing furnace using 4.5 - 5 bar pressure. Don't put the ring into a pressure pot for more than 7-8 minutes of the bench set time! This eliminates expansion and does not let the moisture escape. Microstar recommends using only **alcohol-free** debubblers for best results.

Note: The bench set times above are critical! The theory is to put a hot ring in a hot furnace or a cold ring in a cold furnace. If you go beyond the recommended bench set time, the ring will have cooled off too much to put into the hot furnace. If using a Microstar Flex Ring[™] or thick silicone rings, separate the 100g ring at 13 minutes and set on bench for 2 minutes to allow for the necessary moisture evaporation. Put in oven right at 15 minutes. 200g ring: separate at 18 minutes, 2 minutes on bench, put in oven at 20 minutes. 300g ring: separate at 20 minutes, 2 minutes on bench, put in oven at 22 minutes.

OVERNIGHT TECHNIQUE

Raise temperature to 570°F at 15-18°F per minute and hold for 45-60 minutes, depending on the ring size. Raise temperature to 1600°F at 15-18°F per minute and hold for 35-45 minutes depending on ring size. To obtain the same fit as the rush technique, we recommend that you decrease the liquid ratio by 10%. ex: 20 mL liquid & 5 mL water to 18 mL liquid & 7 mL water. **Note: For a 100 gram ring use the shorter hold time, and increase 10 minutes for each additional 100 grams or each additional ring.**

ADJUSTING EXPANSION

To **INCREASE** expansion, use more liquid and less water. If still more expansion is needed, increase mixing time by 10-15 seconds. To **DECREASE** expansion, use more water and less liquid. Keep the **total amount** of mixing liquid the same.

ORDERING INFORMATION

59689	HS [™] Investment	100 x 100g
59690	HS [™] Investment	144 x 60g
89820	HS-PC [™] Investment	50 x 100g
59631	Partial Plus Investment	45 x 400g
59675	HS [™] Expansion Liquid	1L

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